

REMARKS

The issues outstanding in the office action of January 11, 2010, are the rejections under 35 U.S.C. 112 and 103. Reconsideration of these issues, in view of the following discussion, is respectfully requested.

Rejections Under 35 U.S.C. 112

Claims 1-8 and 10-31 have been rejected under 35 U.S.C. 112, second paragraph, and it is argued at page 3 of the office action that no weight percentages for polymers C1 and C2, and polyethylene D are given in the claim. Moreover, claims 1-8 and 10-31 have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement for the same reasons. In fact, it is clear that there is a misunderstanding. The previous office action amended the percentages of polymers C1 and C2, and polyethylene D. However, the added, underlined text was slightly lighter than the remainder of the claim, and did not scan clearly, making it appear as if there is a blank space in the claim. Accordingly, applicants have treated the claim as if the added language in the previous amendment does not exist, since it is not legible in the EFS copy. The added language presented previously has been re-added in the present amendment. See claim 1. It is thus respectfully submitted that both rejections under 35 U.S.C. 112 should be withdrawn.

Rejections Under 35 U.S.C. 103

Claims 1, 2, 7, 10-13 and 28-33 have been rejected under 35 U.S.C. 103 over Schmukler '135 taken with Tanaka '838. Reconsideration of this rejection is respectfully requested. Schmukler discloses an adhesive composition for bonding polyolefin substrates to polar materials, employing a composition comprising a graft copolymer with a polyethylene backbone, grafted with at least one grafting monomer comprising a polymerizable ethylenically unsaturated carboxylic acid or acid anhydride, and a blending resin containing a high density polyethylene and polypropylene, these components being adhered by blown film coextrusion or other extrusion or blow molding techniques. See claim 1. Patentees teach, for example at column 1, lines 11-35, that their high density polyethylene (HDPE) based extrudible adhesives have higher temperature resistance and better moisture barrier than those based on low density polyethylene or linear low density polyethylene (LLDPE). The compositions of the invention thus clearly exclude LLDPE. Accordingly, in addition to the

deficiency noted at page 4 of the Final Rejection, i.e., that Schmukler does not teach that its graft copolymer can be replaced with a blend comprising a metallocene polyethylene, and a polypropylene homopolymer or copolymer, the reference also does not teach the use of LLDPE, which is present in the current compositions. (Note the above discussion of the clarification to claim 1. Note also, e.g., claim 28 reciting 90-70% of LLDPE).

The Office Action further cites Tanaka, arguing that it teaches a modified polypropylene comprising graft of an unsaturated carboxylic acid or derivative and a modified polyolefin comprising the graft of an unsaturated carboxylic acid. The Office Action argues, at page 4, that although a metallocene polymer is not disclosed, “it is generally known in the art that metallocene catalysts result in compositions with more uniform compositions and better properties.” To support this assertion the office action cites US 5,824,746. The invention of this document relates to a golf ball. The cover of this golf ball is made of a foamed blend of an ionomer and a metallocene catalyzed polymer (claim 1). The aim of this ball made of this specific cover is to provide “highly durable golf balls to be produced with virtually any combination of feel and spin rate” (col. 2, lines 61-63). The Examiner states that this document clearly indicates that metallocene polymer are polymers more uniform than other “conventional” polymers (col. 2, lines 11-13), and as a consequence all the properties of all “metallocene” polymers are necessarily improved vs. conventional” polymers. Applicants respectfully disagree with this assertion. It is clearly stated in this patent at col. 2, lines 14-15 that metallocene polymers has “properties that are specifically tailored to a particular application”. It is not stated that metallocene properties are better for every application. The invention disclosed in US 5,824,746 is a golf ball. The problem to be solved is the durability, not, for example, adhesion to a metal layer. In fact, the golf ball disclosed does not even comprise any metal. As the adhesion, and especially adhesion to a vapor deposited metal layer, is a problem wholly different from durability of a golf ball, one of ordinary skill in the art would not be motivated by US 5,824,746 to use metallocene PE in the specific polymers of the primary reference, e.g., to improve the adhesion thereof.

Moreover, the Office Action argues that “co-grafted” is a method limitation that does not distinguish the present claims from the prior art because cografting would not result in a patentably different product from separately grafted monomers. Applicants disagree with this assertion.

A cografted blend of polypropylene and polyethylene would in fact be expected to be different from separately grafted polypropylene and polyethylene, as the adhesion

characteristics of the resultant combination would be different depending on the grafting method. In order to provide further evidence that cografted materials of the invention are not only different in nature, but are further unexpectedly advantageous, attention is directed to the attached data.

In the patent application, one experiment of grafting has been disclosed. This example uses the following products: metallocene polyethylene (mPE) d=0, 902 and PP homopolymer of Melt Index=7 (used as PP(B) in the examples of the present application). Applicants have made 3 additional grafting experiments to obtain 3 different grafted polymers (A):

GRAFT 1: mPE grafted by maleic anhydride – not part of the invention.

GRAFT 2: PP grafted by maleic anhydride – not part of the invention.

GRAFT 3: (PP+ mPE) *cografted* by maleic anhydride – representing the invention

In the tests, applicants have prepared 4 blends:

Blend 1: 60%wt Graft1 + 40%wt mPE2

Blend 2: 60%wt Graft2 + 40%wt mPE2

Blend 3: 60%wt Graft3 + 40%wt mPE2

Blend 4: 48%wt Graft1 + 12%wt Graft2 + 40%wt mPE2

Each is used to produce films.

The results in the 132 declaration show that sample 1 comprising grafted mPE have excellent adhesion in the metalized PP film but the haze is high. Sample 2 with grafted PP are very transparent (low haze) but the adhesion is poor. Sample 4 which comprise a mixture of both grafted PP and grafted mPE show quite high adhesion but the haze is still high. The composition of the invention, Sample 3, which comprises cografted PP and PE shows unexpectedly a haze similar to the haze of grafted PP and an excellent adhesion, even better than the adhesion obtained with the blend of the grafted PP and grafted PE.

The transparency is directed relied to the gloss effect of the film: the low haze of the tie layer of the invention allows to obtain a very glossy metalized film, with excellent adhesion. This was unexpected from the prior art.

Thus, even considering the combination of references, there are several serious deficiencies which do not result in a composition as presently claimed. Withdrawal of this rejection is accordingly respectfully requested.

Claims 1-7, 10-17, 21-24 and 26-33 have been rejected under 35 U.S.C. 103 over Bothe '630 taken with Schmukler and Tanaka. Reconsideration of this rejection is also respectfully requested.

As admitted at page 5 of the Office Action, Bothe does not teach the adhesive layers in between the foil and the polypropylene, or between the polyester and polypropylene. In order to provide a teaching for the claimed tie layer composition, the Office Action relies on Schmukler and Tanaka as employed above. The considerable deficiencies of these references having been discussed above, it is clear that this rejection also cannot stand, and withdrawal thereof is respectfully requested.

Finally, claims 8 and 18-20 have been rejected under 35 U.S.C. 103 over Bothe taken with Schmukler and Tanaka, further in view of Moore '160. Reconsideration of this rejection is also respectfully requested, inasmuch as it again relies on Schmukler and Tanaka for a teaching which, as discussed above, these references cannot provide.

Accordingly, the claims of the application are submitted to be in condition for allowance. However, should the Examiner have any questions or comments, he is cordially invited to telephone the undersigned at the number below.

Respectfully submitted,

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